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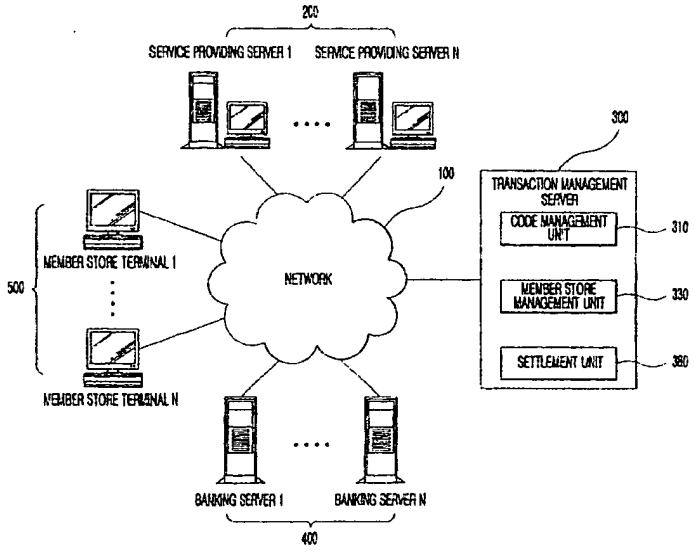

(57) Abstract: An online ticket transaction system includes a plurality of service providing servers providing online charge service, a plurality of member stores selling the ticket to an end user, and a transaction management server for intermediating transaction between them through a network, in which the transaction management server includes a code management unit for acquiring a serial code of a ticket from the service providing server and forwarding the serial code to a member store when required, a store management unit for determining whether the transaction of the member store requesting the serial code is possible and allowing to forward the serial code only when possible, and a settlement unit for settling the price of the ticket when the transaction of the member store is allowed.

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ON-LINE TICKET TRANSACTION SYSTEM AND METHOD

TECHNICAL FIELD

The present invention relates to system and method for online ticket transaction, and more particularly to online ticket transaction system and method for intermediating transaction between a service provider which provides charged online service by a ticket through Internet and a member store which sells the ticket to end users so as to ensure safe and efficient transaction.

BACKGROUND ART

Recently, Internet users abruptly increases with the propagation of superhigh-speed communications and service providers are accordingly created to provide service through Internet. These Internet service providers are taking great pains to create profit models by various ways.

Among such profit models, there are some ways of charging a commission on the intermediate of Electronic Commerce or an advertising profit through such as banner advertisement. In recent years, the way of charging for a part or all of service, which was offered free, tends to be greatly spread for the purpose of guaranteeing fixed profit from service users.

This trend is more prominent among game service providers. Most game service providers build a system for many users to enjoy games simultaneously in real time and then request the users to pay fees for the game service in a way of, for example, fixed charging or hourly specific charging.

The fixed charging is a way of charging a user a fixed amount by each month, while the hourly specific charging is a way of charging a user a fee corresponding to hours that the user actually enjoys the game service. Such fixed charging or hourly specific charging generally needs a credit card number of the user or to automatic settlement so that the service fee is automatically transferred from an account of the user by month, in order to ensure safe transaction. However, customers of the Internet service such as online game are distributed in young ages who are not allowed to possess a credit card, so the payment by a credit card has no effectiveness. In addition, the customers in those ages who are mostly students are usually reluctant to use the bank, so the payment by the automatic transfer is also ineffective. Furthermore, such conventional ways of payment are often a cause of trouble between a user and a service provider due to an outstanding fee.

To solve such problems, there is recently introduced a manner of using a ticket or coupon on which a serial code is printed. This ticket

or coupon is sold to an Internet user so that the user may use a corresponding Internet service for a time or term corresponding to the price of the ticket or coupon by using the serial number. The user who purchased the ticket is commonly able to use the corresponding service as much as the time or term defined to a serial code of the ticket.

This manner using a ticket is actively used among the online game service providers. Recently, the game service providers started to sell game service tickets in a package together with a storage medium containing a game program, a service connecting program and so on.

This package-type transaction method is useful to those who use the service for the first time, however a user who has already used the service should purchase the ticket again for further service by using the conventional inconvenient transaction manners. In other words, if a time or term of the ticket purchased in the package expires, the user should purchase another ticket from the service provider with using a credit card or money transfer through a bank or card company.

In addition, in case the service ticket is sold in stores in a package, a manager of each store should purchase a large amount of tickets in advance. Thus, cost increase due to stocks of the tickets is inevitable and this is a factor of a rise of the ticket price. Even more, in the traditional transaction, the price of the ticket should be fixed in advance and sold according to the fixed price. Thus, it is unable for

the user to purchase the right of use as desired at a desired price.

One of important aims of the charged Internet service providers including online game service providers is to attract more users to use their own service. In that aspect, how easily and conveniently the user purchases the service ticket and uses the service has a great effect on success of the service.

Therefore, there is still pressingly needed a transaction method for the users to easily purchase tickets with ensuring safe transaction and reducing factors of cost increase.

DISCLOSURE OF INVENTION

The present invention is designed to overcome the above problems of the prior art, and an object of the invention is to provide an online ticket transaction system which intermediates transaction between service providing servers which provide charged service by tickets and member stores which directly sell the tickets to users in order to ensure safe and activated transaction at the same time.

Another object of the invention is to provide an online ticket transaction method which is capable of working the above online ticket transaction system.

In order to accomplish the above object, the present invention provides an online ticket transaction system includes a plurality of

service providing servers for providing online charged service with tickets, a plurality of member store terminals installed in member stores selling the tickets to end users, and a transaction management server for intermediating transaction between the service providing servers and the member stores through a network, in which the transaction management server includes a code management means for acquiring serial codes of the tickets from the service providing servers and forwarding a requested serial code to the allowable member store terminal; a member store management means for determining whether the transaction of the member store requesting the serial code is available and allowing the code management means to forward the serial code only when the transaction is available; and a settlement means for settling the price of the ticket when the member store management means allows the transaction with the member store.

the code management means may include a serial code acquiring module for acquiring serial codes of the tickets from a plurality of the service providing servers; a serial code DB for storing the serial codes acquired by the serial code acquiring module; and a code sending module for sending serial codes to the corresponding member store terminal when the member store management means allows to forward the serial codes to the corresponding member store.

Preferably, the serial code DB stores information about providers

of each service providing server, serial codes and total amount of tickets allocated from each service providing server and residual amount of tickets remaining after transaction of each service providing server, and the serial code acquiring module preferably acquires additional serial codes of the ticket from the corresponding service providing server when the residual amount of the ticket stored in the serial code DB is lower than a criterion.

The member store management means may include a code request receiving module for receiving the request for a serial code of the ticket corresponding to a service providing server from the member store terminal; and a deposit check module for checking the balance in an external banking server of the corresponding member store, in which the member store management means allows the code management means to forward the serial codes only when the balance of the corresponding member store is not less than the price of the ticket.

The member store management means may also include a member store DB for storing general information, business information and credit limit of each member store; and a credit rating management module for determining, based on the credit limit of the corresponding member store stored in the member store DB, whether the transaction requested by the member store is available within the credit limit when the balance of the member store is less than the criterion, and allowing

the code management means to forward the serial code when the transaction is available.

The settlement means may also include a settlement module for, when the member store management means allows the transaction with a member store, withdrawing the deposit of the corresponding member store as much as the price of the ticket from the external banking server and remitting the money except a predetermined commission to the corresponding service providing server.

According to another aspect of the present invention, there is provided an online ticket transaction method in an online ticket transaction system, which includes a plurality of service providing servers for providing online charged service with tickets, a plurality of member store terminals installed in member stores selling the tickets to end users, and a transaction management server for intermediating transaction between the service providing servers and the member stores through a network, which includes the steps of (a) acquiring and storing serial codes of the tickets from a plurality of the service providing servers; (b) determining whether the transaction with the member store is available when a serial code is requested from the corresponding member store terminal; (c) forwarding the serial code to the member store terminal when the transaction is available; and (d) settling the price of the ticket.

Preferably, the step (b) includes the steps of determining whether the deposit of the corresponding member store is not less than the price of the ticket; and allowing forwarding the serial code when the deposit of the corresponding member store is not less than the price of the ticket.

The step (b) may further include the steps of determining whether the price of the ticket is less than the sum of the deposit and a credit limit of the corresponding member store, when the deposit is less than the price of the ticket; and allowing to forward the serial code when the sum of the deposit and the credit limit is not less than the price of the ticket.

There may be also added the steps of checking residual amount of serial codes of the ticket corresponding to the service providing server after the transaction; and acquiring additional serial codes of the ticket from the corresponding service providing server when the residual amount is lower than a criterion.

Preferably, the step (d) includes the step of withdrawing the deposit of the corresponding member store as much as the price of the ticket when the transaction with the member store is allowed; and remitting the money except a predetermined commission to the corresponding service providing server.

BRIEF DESCRIPTION OF THE DRAWINGS

These and other features, aspects, and advantages of preferred embodiments of the present invention will be more fully described in the following detailed description, taken accompanying drawings. In the drawings:

Fig. 1 is a schematic view showing overall configuration of an online ticket transaction system according to the present invention;

Fig. 2 is for illustrating a function of a code management unit in a transaction management server in the system of Fig. 1;

Fig. 3 shows data structure of a serial code DB shown in Fig. 2;

Fig. 4 is for illustrating a function of a member store management unit in the transaction management server;

Fig. 5 shows data structure of a member store DB shown in Fig. 4;

Fig. 6 is for illustrating a function of a settlement unit in the transaction management server; and

Fig. 7 is a flowchart for illustrating a method of purchasing a ticket by the purchase management server of the system forwarding a serial code according to the present invention.

BEST MODES FOR CARRYING OUT THE INVENTION

Hereinafter, preferred embodiments of the present invention will

be described in detail with reference to the accompanying drawings.

Fig. 1 shows overall configuration of an online ticket transaction system according to the present invention. Referring to Fig. 1, the online ticket transaction system of the present invention includes a plurality service providing servers 200 which provide charged online service to users with using tickets, a plurality of member store terminals 500 installed in member stores acting for selling the tickets for the online service, and a transaction management server 300 for intermediating transaction between the service providing servers 200 and the member stores having the member store terminals 500 through network 100 such as Internet.

The service providing server 200 can be any server worked by service providers which provide charged service on Internet. Representatively, the service providing server 200 can be a game server operated by a game service provider of online graphic MUD game, for example, a game server of Origin co. in U.S.A. providing a game "Ultima Online", a game server of Sony in Japan providing a game "Everquest", a game server of Taewool co. in Korea providing an online RPG (Role Playing Game) "The Lord of Heroes" and so on.

The term "ticket" used for the service providing server 200 to provide charged service is distributed to users by sale or contribution. A user uses the ticket when desiring to use the charged online service.

And, a predetermined serial code is printed or endowed to each ticket for identification. The ticket is generally made by printing the serial code on a medium such as paper or plastic together with designs for advertisement or prevention of duplicate. At this time, the designs except the serial code are not essential, and just the serial code is essential to use the ticket. Thus, it should be understood that selling "ticket" really means selling "serial code".

Generally, a user possessing a ticket for a specific charged service accesses a side for the charged service and then inputs the serial code recoded on the corresponding ticket to use the service. And, a corresponding service providing server manages the ticket with the serial code by analyzing the serial code to check availability of the ticket and the right to use the ticket (hour or term).

The member store terminal 200 is a terminal installed in a member store which sells end users tickets, distributed by service providers operating the service providing servers 200, as described above. The term "member store" can be any store which sells the ticket for online charged service. Representatively, Internet cafés can be applicable to the member store. There are spread more than 20,000 Internet cafés in the whole country. In addition, banks, manless banking machines such as cash dispenser vicariously used for bank business for 24 hours a day, various stores and shops selling various

computer-related products and convenience stores working for 24 hours a day can be applicable for the member store.

The member store however should have the member store terminal 500 for connecting to the transaction management server 300 of the present invention to exchange data. In addition, the member store terminal 500 should be connected to an input device such as keyboard or mouse to input required data, a display for recognition of the data and so on. Preferably, an output device for printing the serial code on the ticket is additionally installed to the member store terminal 500.

In the present invention, it is defined that the ticket is sold in the member store by cash transaction. In fact, young people are main customers of the charged online service such as computer game and they are usually accustomed to cash transaction, not to bank transaction. But, it is just a representative example, and the member store can additionally utilize deposit without banknote or credit card on consideration of circumstance of the member store, and the transaction type of the member store is not specially limited.

And, it is also preferred that each member store deposits a certain amount of money for the purpose of safe transaction. This deposit can be diverted into the charge of the ticket sold by the member stored. The deposit is preferably kept in a banking server 400 connected to the

member store terminal 500 and the transaction management server 300 through the network 100. The banking server 400 is preferably a third party entrusted for safe transaction, and particularly can be a server for online transaction built by a banking agency such as a bank.

The transaction management server 300 intermediates transaction between the service providing server 200 and the member store where the member store terminal 500 is installed. The transaction management server 300 broadly includes a code management unit 310 for acquiring and managing serial codes of tickets, a member store management unit 320 for receiving a request of a serial code from the member store terminal 500 and allowing to forward the serial code after determining transaction availability of the member store, and a settlement unit 380 for settling the price of the ticket sold in the member store.

Fig. 2 shows the code management unit 310 of the transaction management server 300 in detail. Referring to Fig. 2, the code management unit 310 includes a serial code acquiring module 312, a code sending module 314 and a serial code database (DB) 320.

The serial code acquiring module 312 plays a role of acquiring serial codes of tickets from a plurality of service providing servers 200. The serial code of each ticket acquired in the serial code acquiring module 312 is stored and kept in the serial code DB 320. If the

member store 500 requests a serial code, the serial code stored in the serial code DB 320 is forwarded to the corresponding member store terminal 500 only when the corresponding member store is available for the transaction, namely only when the member store management unit 330 allows to forward the serial code.

The serial code DB 320 stores information of acquired serial codes, and its data structure is well shown in Fig. 3.

Referring to Fig. 3, the serial code DB 320 includes a provider section 322 for storing a name of a service provider which operates each service providing server, a serial code section 324 for showing currently stored serial codes among serial codes allocated from each service providing server, a total amount section 326 for storing a total amount of serial coded allocated from each service providing server, and a residual amount section 328 for storing a residual amount of serial codes remaining after latest transaction for a ticket provided from each service providing server.

Among them, the serial codes stored in the serial code section 324 can be arranged in a certain order according to the service providing server. The serial codes arranged as above are preferably sold from the lowest number, and a sold serial code is erased from the serial code section 324. But, various modifications are also possible, not limited to that case.

The serial code acquiring module 312 checks the residual amount of serial codes from each service providing server stored in the serial code DB 320, and is capable of acquiring additional serial codes of the corresponding ticket from the corresponding service providing server when the residual amount is less than a certain criterion. Here, the term "criterion" means the allowable minimum residual amount defined to each ticket, and can be determined on consideration of transaction amount of the ticket. For example, the criterion can be calculated as a ratio of the residual amount to the total amount of the serial codes allocated from each service providing server. If the criterion of the minimum residual amount is set to 20% of the total amount and the total amount of serial codes for a ticket from a specific service providing server is 1,000, the serial code acquiring module 312 acquires additional serial codes from the corresponding service providing server when the residual amount of the corresponding serial codes is lowered under 200.

Fig. 4 shows the member store management unit 330 of the transaction management server 300 in detail. Referring to Fig. 4, the member store management unit 330 includes a code request receiving module 332, a deposit check module 334, a credit rating management module 336 and a member store DB 340.

The member store DB 340 is a storage means for storing member

store-related data, transaction information, credit limit and so on and will be described later in detail.

The code request receiving module 332 receives a request for a serial code of a ticket for online service from a specific service providing server. At this time, the code request receiving module 332 also receives information about a provider name of the service providing server corresponding to the requested ticket and the price of the corresponding ticket. Though the ticket may be sold in the same price, it is preferably that the price is freely determined as the end user desires. In other words, if the end user presents a payable price, the suitable right as much as the price is endowed to the serial code of the ticket. For example, assuming that 20,000 won is allotted to a ticket with a right of using service for 10 hours and an end user wants to buy a ticket worth 10, 000 won, only 5 hour right corresponding to 10,000 won is endowed to the serial code sold to the end user.

If the code request receiving module 332 receives a code request from a member store terminal, the deposit check module 334 checks a deposit of the corresponding member store. Assuming that the member store keeps the deposit in the external banking server 400, the deposit check module 334 checks the current deposit of the corresponding member store from the banking server 400.

If the checked deposit of the member store is more than the price

of the request serial code, the member store management unit 330 determines that the transaction with the member store is available and then allows the code sending module 314 to forward the serial code to the corresponding member store terminal. However, if the deposit of the member store is less than the price of the requested serial code, the member store management unit 330 checks a credit limit of the corresponding member store and then determines again whether the transaction is available within the credit limit. The credit limit of the member store is stored in the member store DB 340 and to manage and check the credit limit is a role of the credit rating management module 336.

Fig. 5 shows an example of such a member store DB 340 in detail. Referring to Fig. 5, data structure of the member store DB 340 and roles of the credit rating management module 336 are described as follows.

Fist, the member store DB 340 is briefly classified into three areas: a) a member store list storing area 350, b) a transaction list storing area for each member store 360, and c) a credit rating storing area 370, as shown in the figure.

The member store list storing area 350 stores general information about each member store, which includes a name of member store 352, a representative of member store 354, an address of member store 356,

a contact number of member store 358 and so on. The data stored in the member store list storing area 350 are created when a new member store is registered and updated when information about an existing member store is changed or deleted. Of course, more information related to the member store can be recorded for efficient operation of the server.

The transaction list storing area for each member store 360 stores detailed transaction lists with each member store. The transaction list storing area 360 stores a name of member store 361, a business day of each transaction with the member store 362, a service provider for the sold serial code 364, a sold serial code 366, a transaction money 368 and so on. The data stored in the transaction list storing area 360 are updated whenever new transaction is generated. In other words, if a transaction of a serial code with a specific member store is successfully conducted, the transaction list storing area for the corresponding member store adds information about the business day of the transaction, the service provider of the sold serial code, the sold serial code, the transaction money and so on.

The credit rating storing area 370 stores information related to credit rating of each member store. This credit rating storing area 370 has a close relation with the credit rating management module 336. The credit rating storing area 370 generally stores a name of each

member store 372, a total transaction money of each member store 374, a deposit or current deposit balance of each member store 375, credit rating of each member store 376, a credit limit of each member store 378 and so on. Among the information stored in the credit rating storing area 370, the data related to the total transaction money and the current deposit balance are updated at every transaction, while the data related to the deposit, the credit rating and the credit limit are updated just when there is any change.

The credit rating management module 370 determines the credit rating and the credit limit of a member store on consideration of the total transaction money, the deposit or other various factors of the corresponding member store. For example, the credit rating management module 370 may classify member stores having a total transaction money of 50~100 million won into "C" grade, member stores having a total transaction money of 100~300 million won into "B" grade, and member stores having a total transaction money over 300 million won into "A" grade, and may award 100,000 won to member stores of "C" grade, 300,000 won to member stores of "B" grade and 1 million won to member stores of "A" grade. The method of determining the credit rating and the credit limit can be realized in various ways, and not limited to a specific case.

If the transaction money of the serial code requested by the

member store exceeds a current deposit balance of the member store, the credit rating management module 370 check the credit rating 378 of the corresponding member store stored in the member store DB 340 to determine whether the sum of the deposit and the credit limit of the member store exceeds the transaction money. At this time, if the sum of the deposit and the credit limit is over the transaction money, the credit rating management module 370 determines that the transaction is available and then allows the code sending module 314 to forward the serial code. However, if the sum is less than the transaction money, the credit rating management module 370 determines that the transaction is not available and then disallows forwarding of the serial code.

At this time, if the transaction is unavailable due to the lack of the deposit and the credit limit of the member store, the transaction management server 300 may send a warning message informing the corresponding member store of the lack of the deposit.

Fig. 6 shows the settlement unit 380 of the transaction management server 300. Referring to Fig. 6, the settlement unit 380 includes a settlement module 382 which is connected to both of the banking server 400 and the service providing server 200 to settle the price of the ticket purchased by the member store.

If the member store management unit 330 allows a transaction

with a specific member store, the settlement module 382 withdraws transaction money from the deposit of the member store in the banking server 400. If the deposit of the member store is less than the transaction money, the settlement module 382 withdraws all the deposit and takes off the remainder from the credit limit of the corresponding member store. Then, the settlement module 382 remits the transaction money except a predetermined commission to the corresponding service providing server 200, and then the settlement process is completed. At this time, the commission is decided from an agreement with a company operating the service providing server 200 and not limited to any specific ratio.

Fig. 7 is a flowchart for illustrating a transaction method executed in the transaction management server 300 of the online ticket transaction system according to the present invention. Referring to Fig. 7, the online ticket transaction method of the present invention is described as follows.

First, the transaction management server 300 acquires serial codes of tickets from a plurality of service providing servers 200 which provide charged online service by using the serial code acquiring module 312 of the code management 310 (S600). The acquired serial codes are stored and kept in the serial code DB 320.

Then, if a purchaser requests a member store (e.g. Internet café)

to sell a ticket for a specific charged online service, a clerk or manager requests a serial code from the transaction management server 300 by using the member store terminal 500. Then, the code request receiving module 332 of the member store management unit 330 receives the code request from the corresponding member store terminal 500 (S602).

If the code request receiving module 332 of the member store management unit 330 receives the code request, the deposit check module 334 inquires the banking server 400 to check a current deposit of the member store and then determine whether the deposit of the member store is more than a transaction money (or, the price of the serial code) (S604). At this time, if the deposit of the member store is sufficient, the member store management unit 330 allows the code sending module 314 of the code management unit 310 to forward the serial code (S610). However, if the deposit of the corresponding member store is insufficient, the credit rating management module 336 of the member store management unit 330 checks a credit limit of the corresponding member store to determine whether the sum of the deposit and the credit limit is over the transaction money (S606). At this time, if the credit limit of the corresponding member store is sufficient, it is determined that the transaction is available, proceeded to the step S610 for allowance of forwarding the serial code. However, if the credit limit is also insufficient, the member store management

unit 330 determines that the transaction with the member store is unavailable, so the member store management unit 330 interrupts the transaction and sends a warning message informing the member store terminal of the lack of the deposit (S608).

If the serial code is forwarded on the determination that the transaction with the member store is available, the settlement module 382 of the settlement unit 380 withdraws the transaction money from the deposit of the corresponding member store in the banking server400 (S612). At this time, if the deposit is insufficient and the transaction money is partially diverted to the credit limit, the banking server 400 withdraws all the deposit of the corresponding member store, and then the remainder is taken off from the credit limit. After that, the settlement module 382 remits the transaction money except a predetermined commission to the service providing server 200 (S614), and the settlement for the serial code transaction is completed.

If the settlement for the serial code is settled, the code management unit 310 deletes the sold serial code from the serial code DB 320 (S616), and the member store unit 330 stores information related to the sold serial code and its transaction into the member store DB 340 (S618).

After that, the serial code acquiring module 312 determines whether the residual amount of the ticket corresponding to the serial

code sold and deleted from the serial code DB 320 is sufficient (S620). As a result of the determination, if the residual amount is sufficient, all processes are completed, while if the residual amount is insufficient, the process is completed after acquiring additional serial code for the corresponding ticket from the corresponding service providing server 200 (S622).

INDUSTRIAL APPLICABILITY

As described above, the online ticket transaction system and method of the present invention help end users to easily purchase tickets for charged online service in a simple way of cash transaction, so is advantageous of promoting sale of tickets and therefore increasing users of the charged service.

In addition, the transaction system and method give convenience to users since the users may purchase the ticket at a desired price.

Moreover, since the transaction system and method intermediate transaction between a service provider and a ticket seller through network, physical distribution costs such as stock costs and wholesale margin can be dramatically reduced. Furthermore, since the transaction money is entrusted to a third party, the safe transaction is ensured.

The present invention has been described in detail. However, it

should be understood that the detailed description and specific examples, while indicating preferred embodiments of the invention, are given by way of illustration only, since various changes and modifications within the spirit and scope of the invention will become apparent to those skilled in the art from this detailed description.

What is claimed is:

1. An online ticket transaction system includes a plurality of service providing servers for providing online charged service with tickets, a plurality of member store terminals installed in member stores selling the tickets to end users, and a transaction management server for intermediating transaction between the service providing servers and the member stores through a network, the transaction management server comprising:

a code management means for acquiring serial codes of the tickets from the service providing servers and forwarding a requested serial code to the allowable member store terminal;

a member store management means for determining whether the transaction of the member store requesting the serial code is available and allowing the code management means to forward the serial code only when the transaction is available; and

a settlement means for settling the price of the ticket when the member store management means allows the transaction with the member store.

2. The online ticket transaction system according to claim 1, wherein the code management means includes:

a serial code acquiring module for acquiring serial codes of the tickets from a plurality of the service providing servers;

a serial code DB for storing the serial codes acquired by the serial code acquiring module; and

a code sending module for sending serial codes to the corresponding member store terminal when the member store management means allows to forward the serial codes to the corresponding member store.

3. The online ticket transaction system according to claim 2,

wherein the serial code DB stores information about providers of each service providing server, serial codes and total amount of tickets allocated from each service providing server and residual amount of tickets remaining after transaction of each service providing server, and

wherein the serial code acquiring module acquires additional serial codes of the ticket from the corresponding service providing server when the residual amount of the ticket stored in the serial code DB is lower than a criterion.

4. The online ticket transaction system according to claim 1, wherein the member store management means includes:

a code request receiving module for receiving the request for a

serial code of the ticket corresponding to a service providing server from the member store terminal; and

a deposit check module for checking the balance in an external banking server of the corresponding member store,

wherein the member store management means allows the code management means to forward the serial codes only when the balance of the corresponding member store is not less than the price of the ticket.

5. The online ticket transaction system according to claim 4, wherein the member store management means includes:

a member store DB for storing general information, business information and credit limit of each member store; and

a credit rating management module for determining, based on the credit limit of the corresponding member store stored in the member store DB, whether the transaction requested by the member store is available within the credit limit when the balance of the member store is less than the criterion, and allowing the code management means to forward the serial code when the transaction is available.

6. The online ticket transaction system according to claim 1, wherein the settlement means includes:

a settlement module for, when the member store management means allows the transaction with a member store, withdrawing the deposit of the corresponding member store as much as the price of the ticket from the external banking server and remitting the money except a predetermined commission to the corresponding service providing server.

7. An online ticket transaction method in an online ticket transaction system, which includes a plurality of service providing servers for providing online charged service with tickets, a plurality of member store terminals installed in member stores selling the tickets to end users, and a transaction management server for intermediating transaction between the service providing servers and the member stores through a network, the method comprising the steps of:

(a) acquiring and storing serial codes of the tickets from a plurality of the service providing servers;

(b) determining whether the transaction with the member store is available when a serial code is requested from the corresponding member store terminal;

(c) forwarding the serial code to the member store terminal when the transaction is available; and

(d) settling the price of the ticket.

8. The online ticket transaction method according to claim 7, wherein the step (b) includes the steps of:

determining whether the deposit of the corresponding member store is not less than the price of the ticket; and

allowing forwarding the serial code when the deposit of the corresponding member store is not less than the price of the ticket.

9. The online ticket transaction method according to claim 8, wherein the step (b) further includes the step of:

determining whether the price of the ticket is less than the sum of the deposit and a credit limit of the corresponding member store, when the deposit is less than the price of the ticket; and

allowing forwarding the serial code when the sum of the deposit and the credit limit is not less than the price of the ticket.

10. The online ticket transaction method according to claim 7, further comprising the steps of:

checking residual amount of serial codes of the ticket corresponding to the service providing server after the transaction; and

acquiring additional serial codes of the ticket from the corresponding service providing server when the residual amount is

lower than a criterion.

11. The online ticket transaction method according to claim 7, wherein the step (d) includes the step of:

withdrawing the deposit of the corresponding member store as much as the price of the ticket when the transaction with the member store is allowed; and

remitting the money except a predetermined commission to the corresponding service providing server.

FIG.1

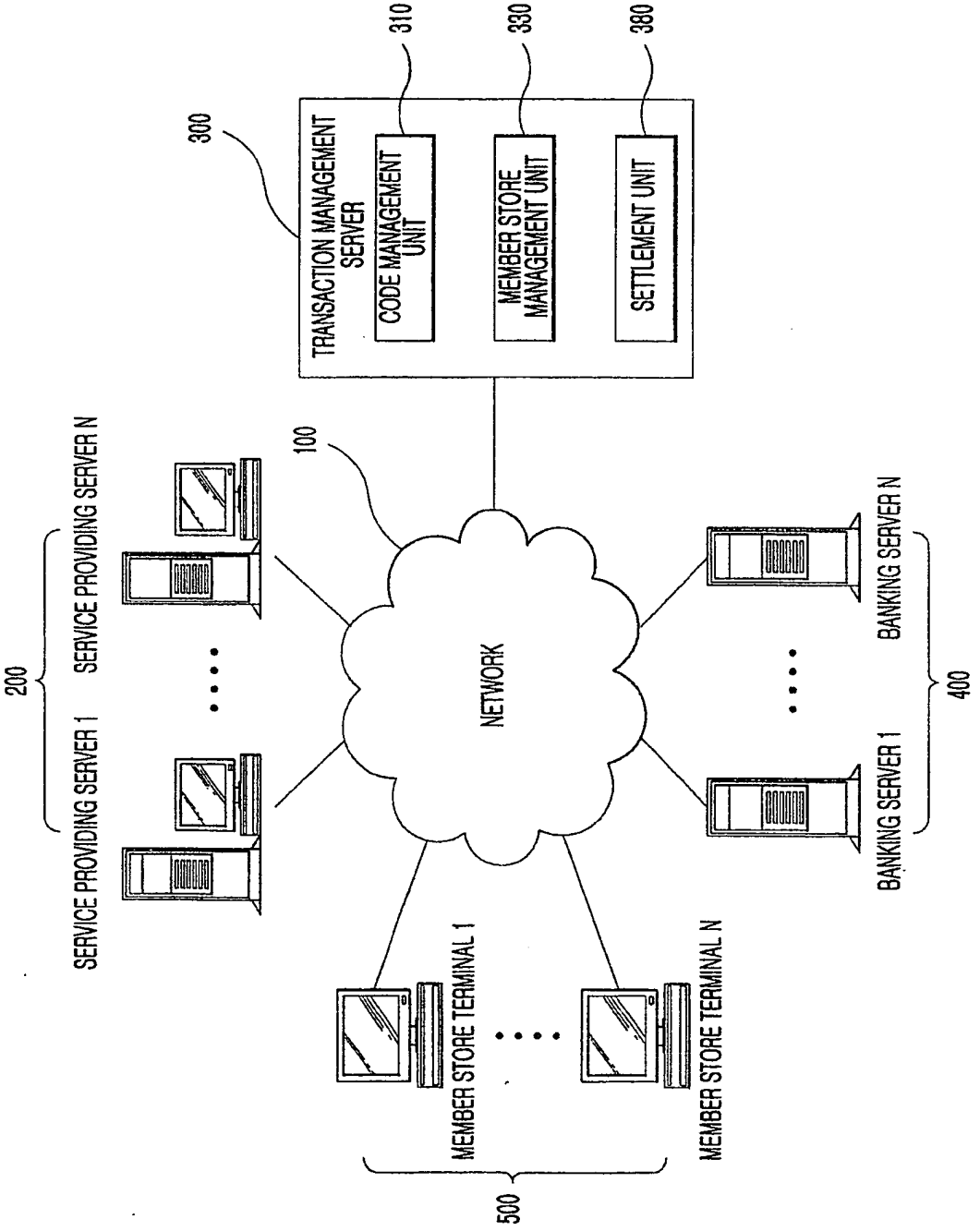
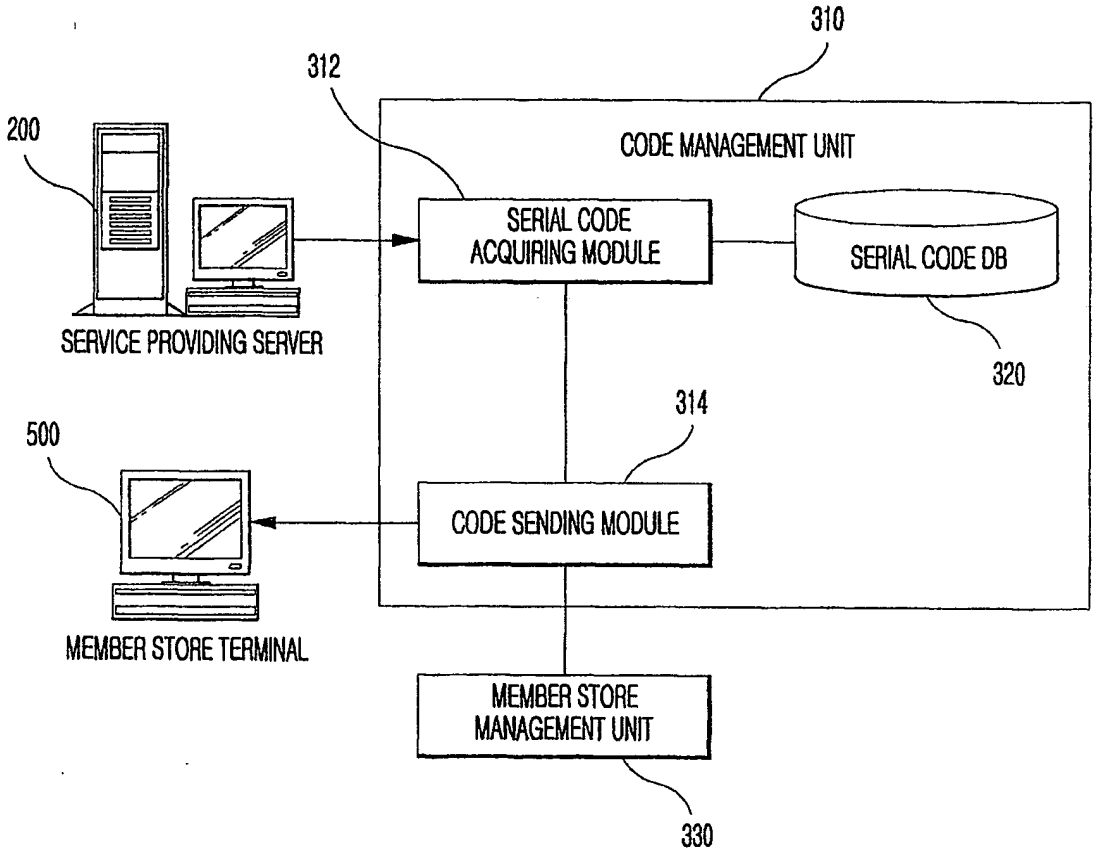
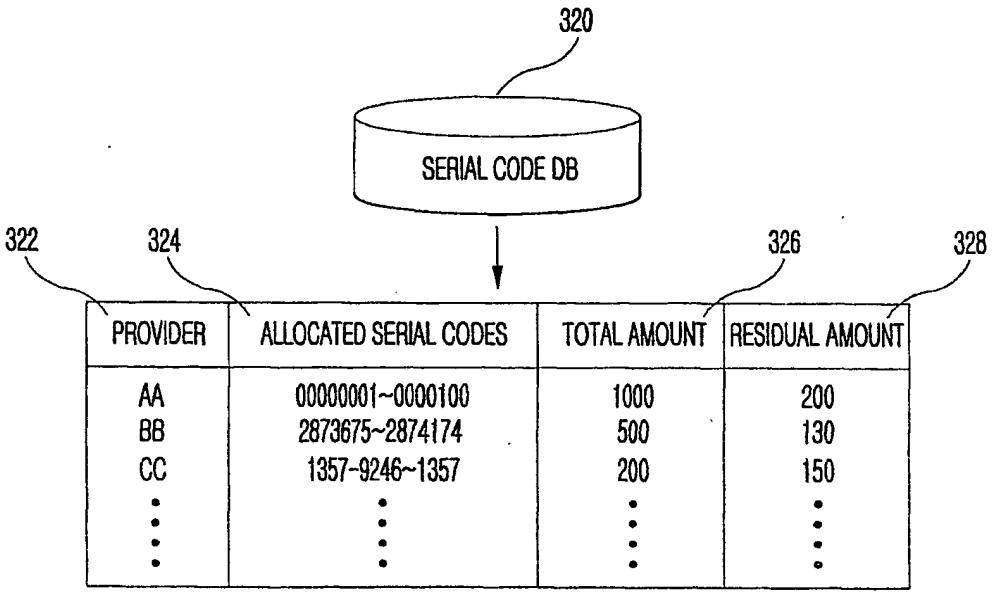

300
TRANSACTION MANAGEMENT SERVER
310
CODE MANAGEMENT UNIT
330
MEMBER STORE MANAGEMENT UNIT
380
SETTLEMENT UNIT
100
NETWORK
200
SERVICE PROVIDING SERVER 1
SERVICE PROVIDING SERVER N
400
BANKING SERVER 1
BANKING SERVER N
500
MEMBER STORE TERMINAL 1
MEMBER STORE TERMINAL N

FIG. 2


310
312
200
CODE MANAGEMENT UNIT
SERIAL CODE ACQUIRING MODULE
SERIAL CODE DB
320
SERVICE PROVIDING SERVER
314
500
CODE SENDING MODULE
MEMBER STORE TERMINAL
MEMBER STORE MANAGEMENT UNIT
330

3/7

FIG. 3



PROVIDER	ALLOCATED SERIAL CODES	TOTAL AMOUNT	RESIDUAL AMOUNT
AA	00000001~0000100	1000	200
BB	2873675~2874174	500	130
CC	1357-9246~1357	200	150
•	•	•	•
•	•	•	•
•	•	•	•
•	•	•	•

FIG. 4

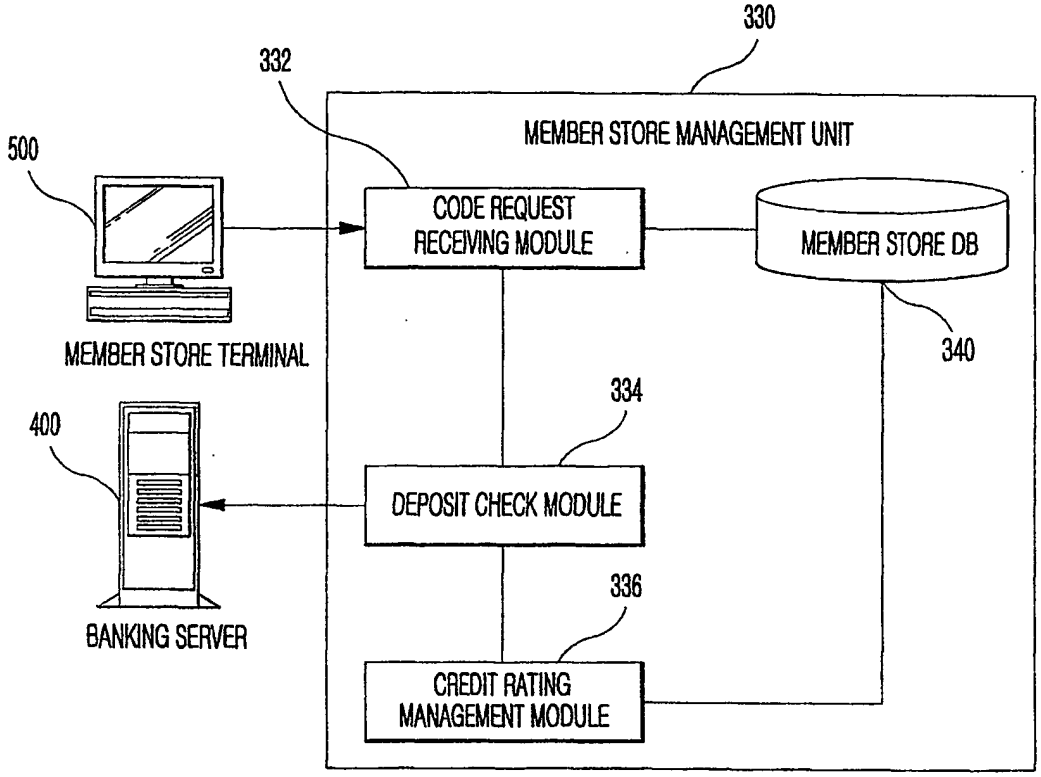

330
332
MEMBER STORE MANAGEMENT UNIT
500
CODE REQUEST RECEIVING MODULE
MEMBER STORE DB
340
MEMBER STORE TERMINAL
334
400
DEPOSIT CHECK MODULE
336
BANKING SERVER
CREDIT RATING MANAGEMENT MODULE

FIG.5

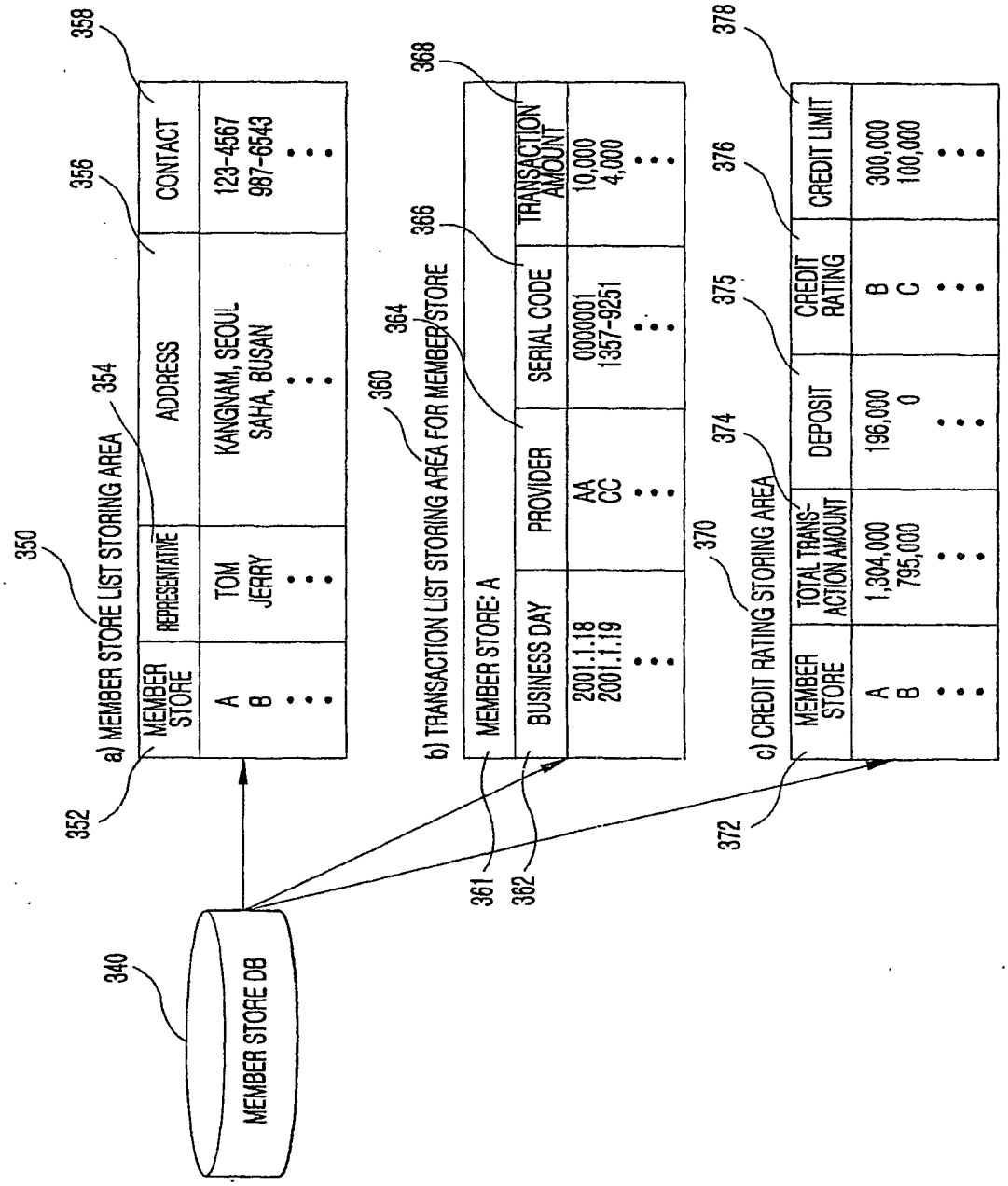

a) MEMBER STORE LIST STORING AREA
MEMBER STORE
REPRESENTATIVE
ADDRESS
CONTACT
A
B
TOM
JERRY
KANGNAM, SEOUL
SAHA, BUSAN
123-4567
987-6543
b) TRANSACTION LIST STORING AREA FOR MEMBER STORE
MEMBER STORE: A
BUSINESS DAY
PROVIDER
SERIAL CODE
TRANSACTION AMOUNT
2001.1.18
2001.1.19
AA
CC
0000001
1357-9251
10,000
4,000
c) CREDIT RATING STORING AREA
MEMBER STORE
TOTAL TRANSACTION AMOUNT
DEPOSIT
CREDIT RATING
CREDIT LIMIT
A
B
1,304,000
795,000
196,000
0
B
C
300,000
100,000
MEMBER STORE DB
340
350
352
354
356
358
360
361
362
364
366
368
370
372
374
375
376
378

FIG. 6

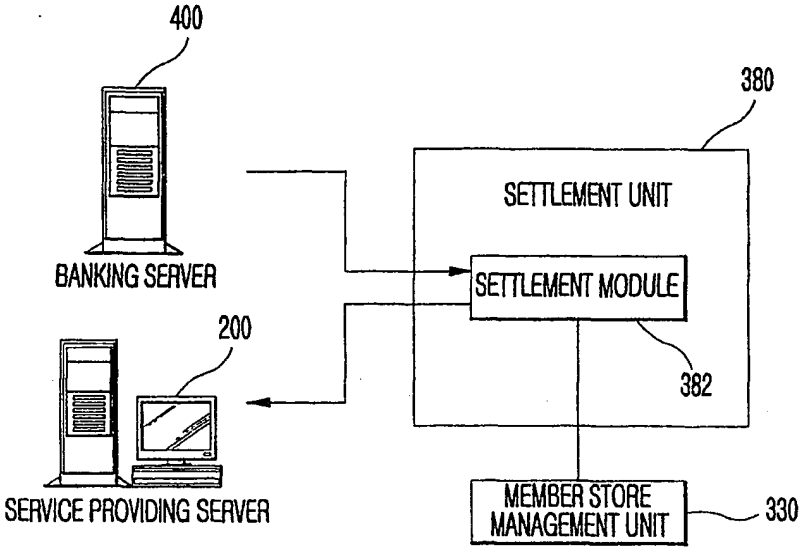
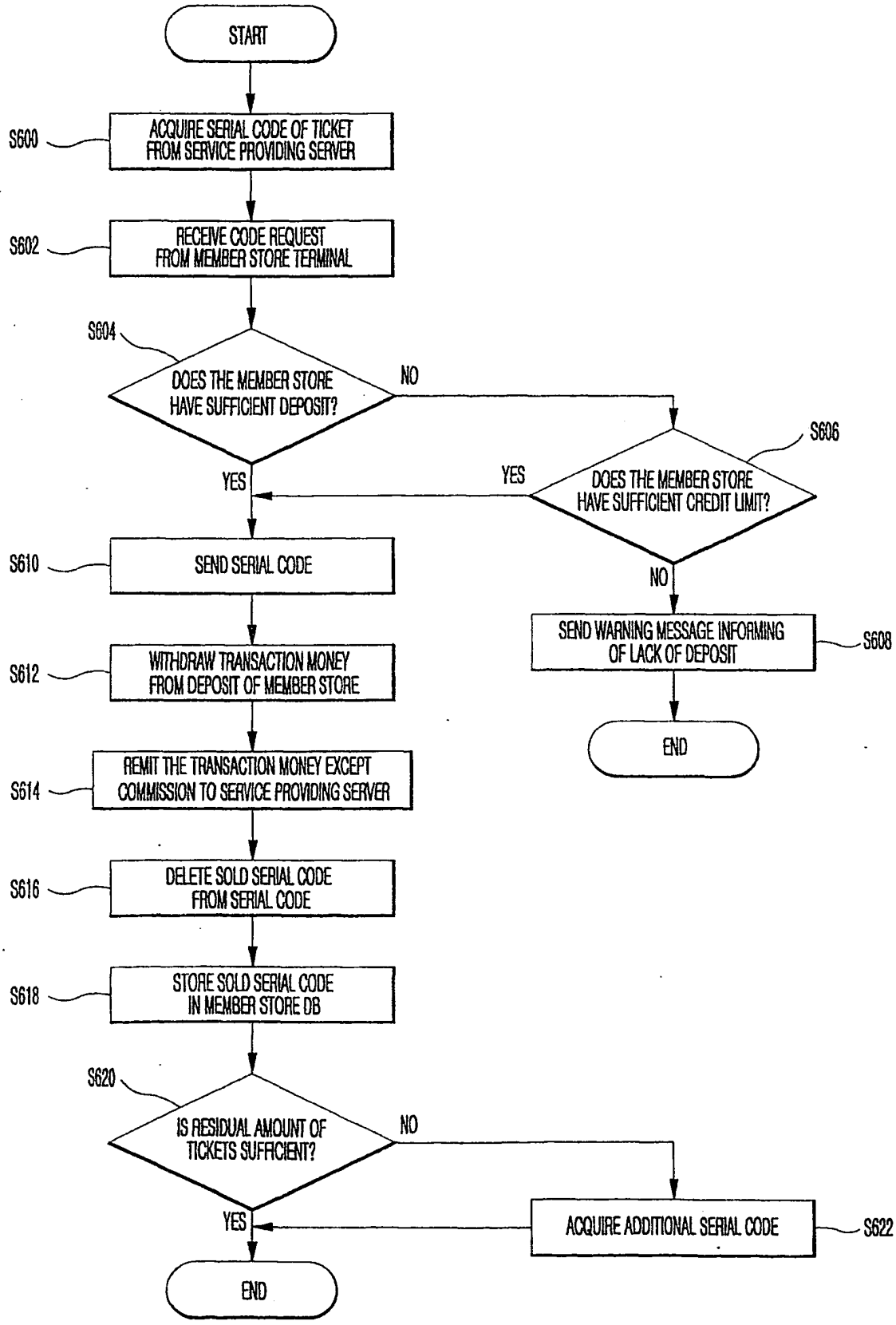

400
380
SETTLEMENT UNIT
BANKING SERVER
SETTLEMENT MODULE
200
382
SERVICE PROVIDING SERVER
MEMBER STORE MANAGEMENT UNIT
330

FIG. 7


START
S600
ACQUIRE SERIAL CODE OF TICKET FROM SERVICE PROVIDING SERVER
S602
RECEIVE CODE REQUEST FROM MEMBER STORE TERMINAL
S604
DOES THE MEMBER STORE HAVE SUFFICIENT DEPOSIT?
NO
YES
S606
DOES THE MEMBER STORE HAVE SUFFICIENT CREDIT LIMIT?
YES
NO
S610
SEND SERIAL CODE
S612
WITHDRAW TRANSACTION MONEY FROM DEPOSIT OF MEMBER STORE
S614
REMIT THE TRANSACTION MONEY EXCEPT COMMISSION TO SERVICE PROVIDING SERVER
S616
DELETE SOLD SERIAL CODE FROM SERIAL CODE
S618
STORE SOLD SERIAL CODE IN MEMBER STORE DB
S620
IS RESIDUAL AMOUNT OF TICKETS SUFFICIENT?
NO
YES
S622
ACQUIRE ADDITIONAL SERIAL CODE
S608
SEND WARNING MESSAGE INFORMING OF LACK OF DEPOSIT
END
END

INTERNATIO SEARCH REPORT

national application No.
PCT/KR01/02012

A. CLASSIFICATION OF SUBJECT MATTER

IPC7 G06F 17/60

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimun documentation searched (classification system followed by classification symbols)

Documentation searched other than minimun documentation to the extent that such documents are included in the fileds searched

Electronic data base consulted during the intertnational search (name of data base and, where practicable, search trerms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y, P	KR 2001-60331 A (BARO DATCOM CO.) 6 JULY 2001 (Family None) * abstract & claims	1-11
Y,P	US 6282522 B1 (VISA INTERNATIONAL SERVICE CO.) 28 AUGUST 2001(Family None) * abstract & claims	1-11
A, P	KR 2001-88910 A (K. J. PARK) 29 SEPTEMBER 2001 (Family None) * whole documents	1-11
A, P	KR 2001-35453 A (M. H. KIM) 7 MAY 2001 (Family None) * whole documents	1-11
A	KR 2000-54166 A (SOLUTION WOCKS CO.) 5 SEPTEMBER 2000 (Family None) * whole documents	1-11
A	KR 2000-58225 A (GIFT PD CO.) 5 OCTOBER 2001 (Family None) * whole documents	1-11

☐ Further documents are listed in the continuation of Box C.

☐ See patent family annex.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevence

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"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevence; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevence; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents,such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
24 JANUARY 2002 (24.01.2002)	25 JANUARY 2002 (25.01.2002)

Name and mailing address of the ISA/KR	Authorized officer
Korean Intellectual Property Office Government Complex-Daejeon, 920 Dunsan-dong, Seo-gu, Daejeon Metropolitan City 302-701, Republic of Korea Facsimile No. 82-42-472-7140	KIM, Jae Wook Telephone No. 82-42-481-5962

Form PCT/ISA/210 (second sheet) (July 1998)